

PATENT COOPERATION TREATY ON THE DOMAIN OF THE PATENT

From the INTERNATIONAL SEARCHING AUTHORITY

To:
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PCT
NOTICE ABOUT THE MAILING OF THE
PROVISIONAL INTERNATIONAL
EXAMINATION REPORT
(Regulation 71.1 PCT)

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Applicant's or agent's file reference
RG 579 PCT

IMPORTANT NOTICE

International Reference No.
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International Application Date
Priority Date: December 14, 2002

International filing date
(day/month/year) December 29, 2001

Applicant

A. RAYMOND & CIE et al.

1. The applicant is informed that the official charged with the International Provisional Examination is sending herewith the International Provisional Examination report with any associated annexes prepared for the international application.
2. A copy of the report is being sent with any associated annexes to the International Office for further transmittal to all selected Offices.
3. Upon the request of a selected Office the International Office will prepare a translation of the report (but not of the annexes) into English and send it to this Office.

4. REMINDER

In order to enter into the national phase the applicant must perform certain actions (submission of translations and payment of national fees) in each selected Office within thirty months after the priority date (or even later in some Offices) (Article 39 (1)) (see also the information distributed by the International Office in form PCT/1B/301).

If a translation of the international application is to be sent to a selected Office, this translation must also contain translations of all annexes to the International Provisional Examination report. The applicant is responsible for obtaining such translations and sending them directly to the selected Offices concerned.

Further details concerning the relevant deadlines and requirements of the selected Offices can be gathered from volume II of the PCT Handbook for Applicants.

The Applicant is referred to Article 33(5), that explains that the criteria for novelty, inventive activity and industrial application described in Article 33(2) to (4) apply only to the International Provisional Examination and that "each contracting state (...) can establish additional or deviating features for deciding about the patentability of the claimed invention in this state" (see also Article 27(5)). Such additional features can concern, e.g., exceptions to the patentability, requirements for the disclosure of the invention as well as clarity and the support of the claims.

Name and postal address of the authority
charged with the International Examination

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**PATENT COOPERATION TREATY ON THE DOMAIN OF THE PATENT
PCT
INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(Article 36 and Rule 70 PCT)**

Reference number of the applicant or attorney RG 579 PCT	FURTHER PROCESSING See communication about sending the International Provisional Examination report (form PCT/IPEA/416)	
International Application Number PCT/EP02/14271	International Application Date (Day/Month/Year) December 14, 2002	Priority Date (Day/Month/Year) December 29, 2001
International Patent Classification (IPC) or national classification and IPC F16B21/02, F16B21/02		
Applicant A. RAYMOND & DIE et al.		
<p>1. This International Provisional Examination report was prepared by the official charged with the International Provisional Examination and is being sent to the applicant according to Article 36.</p> <p>2. This REPORT comprises a total of 5 pages including this cover sheet.</p> <p><input checked="" type="checkbox"/> In addition, ANNEXES are included with the report. They concern pages with specifications, claims and/or drawings that were modified and constitute the basis of this report and/or concern pages with corrections performed in front of this official (see Regulation 70.16 and Section 607 of the Administrative Guidelines for the PCT).</p> <p>These annexes comprise a total of seven sheets.</p>		
<p>3. This report contains specifications concerning the following points:</p> <ul style="list-style-type: none"> I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> No preparation of an expert opinion concerning novelty, inventive activity and industrial applicability IV <input type="checkbox"/> Insufficient unity of the invention V <input checked="" type="checkbox"/> Established determination under Regulation 66.2 a)ii) regarding the novelty, inventive activity and industrial applicability; documents and explanations in support of this determination VI <input type="checkbox"/> Certain cited documents VII <input type="checkbox"/> Certain deficiencies in the international application VIII <input type="checkbox"/> Certain notes concerning the international application 		
Date of Submission of Petition July 24, 2003	Date of Completion of this Report March 23, 2004	
Name and postal address of the authority Tasked charged with International Examination [logo] Europaisches Patentamt D-80298 Munich Tel. +49 89 2399 – 0 Tx: 523656 epmu d Fax: +49 89 2399 – 4465	Authorized employee Fittante, G. [logo] Tel. No. +49 89 2399 8485	

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EXAMINATION REPORT**International reference **PCT/EP 02/14271**

I. Basis of the report

1. Regarding the components of the international application (*replacement sheets presented to the Application Office upon a request under Article 14 are considered within the framework of this report as "originally submitted" and are not attached because they contain no amendments* (Regulations 70.16 and 70.17)):

Specification, pages

1-5 received on January 28, 2004 with the letter dated January 27, 2004

Claims, No.

1-5 received on January 28, 2004 with the letter dated January 27, 2004

Drawings, sheets

1-2-2/2 in the originally filed version

2. **Regarding** the language: All previously cited components were available to the authority in the language in which the international application was filed or were filed in this language in as far as nothing else is indicated in this point.

The components were available to the authority in the language or were filed in this language; this concerns:

- ☐ The language of the translation filed for purposes of the international search (under Regulation 23.1(b)).
 - ☐ The publication language of the international application (under Regulation 48.3(b)).
 - ☐ The language of the translation filed for purposes of the international preliminary examination (under Regulation 55.2 and/or 55.3).
3. Regarding the nucleotide- and/or amino acid sequence disclosed in the international application the international preliminary examination was carried out based on the sequence protocol that:
- ☐ Is contained in the international application in written form.
 - ☐ Was filed together with the international application in computer-readable form.
 - ☐ Was subsequently filed in written form with the authority.
 - ☐ Was subsequently filed in computer-readable form with the authority.

- ☐ The declaration that the subsequently filed written sequence protocol does not exceed the disclosed content of the international application at the time of filing was presented.
- ☐ The declaration that the information gathered in computer-readable form corresponds to the written sequence protocol was presented.

4. The following documents were eliminated due to amendments:

- ☐ Specification, pages:
- ☐ Claims, No.:
- ☐ Drawings, sheet:

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5. This report was prepared without taking into consideration (some) of the amendments since in the opinion of the authority they exceed the disclosed content in the originally filed version for the indicated reasons (Regulation 70.2(c)).

(Replacement pages containing such amendments are to be referred to in Point 1; they are to be attached to this report.)

6. Any additional remarks:

- V. Justified determination under Article 35(2) regarding the novelty, inventive activity and industrial applicability: documents and declarations in support of this determination

1. Determination of

Novelty (N)	yes: Claims 1 – 5 no: Claims
Inventive activity (S)	yes: Claims 1 – 5 no: Claims
Industrial applicability (A)	yes: Claims 1 – 5 no: Claims

2. Documents and declarations:

See attached sheet.

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V.2 Documents and declarations supporting the justified determination in accordance with Article 35 (2) regarding the novelty, inventive activity and industrial applicability

- 2.1 None of the references that became known that the Examiner charged with the International Preliminary Examination and constitute the state of the art shows or indicates at least implicitly but unambiguously all technical features of coordinate independent Claims 1 and 4, so that the requirements of novelty according to Article 33 (2) PCT appear to be met for the claimed subject matter.

In this regard, each of the three references cited as being especially relevant in the International Search Report dated April 14, 2003 can be referred to, that all, and at the same time solely, disclose technical features of the generic parts of these independent claims, which parts are identical to each other. In particular, document US-A-4 981 405 (D1) appears to be the best suited to represent the generic part of the invention since it concerns a fixing element consisting of plastic with all the features indicated above (see, e.g., Figures 1 to 3 and the specification, column 2, line 55 to column 3, line 50), since the partially claimed technical effect, namely the opposing of the shanks of the element to a rotation in the opposite direction after the 90° turn has taken place, is likewise assured.

- 2.2 Dependent Claims 2 and 3 as well as dependent Claim 5 contain logical further developments, not completely known from the present state of the art, of two embodiments of the fixing element of Claims 1 and 4 to which they refer, so that the above-cited requirements of novelty likewise or also a fortiori appear to be met for the corresponding subject matters (Article 33 (2) PCT).
- 2.3 The requirements of inventive activity also appear to be met for the subject matter of independent Claims 1 and 4 as well as, consequently, Claims 2, 3 and 5 dependent on them because in the present state of the art no sufficient indication about pressing ramps and their geometric arrangement according to features of these claims can be found. In other words, an expert in the art who has, e.g., D1 as starting point, is confronted with too many alternatives for the geometric arrangement that cannot be absolutely classified as obvious or, especially as regards their mechanical effect, as equivalent.
- 2.4 The industrial applicability in the sense of Article 33 (4) PCT is obviously a given.

* * *

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ART 34 AMOT

Agent:

2/PRTS

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Published:

With international Search Report.

See the explanations ("Guidance Notes on Codes and Abbreviations") at the start of each regular edition of the PCT Gazette for an explanation of two-letter codes and of other abbreviations.

The invention relates to a fixing element consisting of plastic with a foot part for insertion into an oblong hole of a carrier plate, which foot part consists of a head corresponding to the edge of the oblong hole and of a shaft adapted to the width of the oblong hole and which fixing element can be locked in the oblong hole after the insertion of the head by a quarter turn under elastic deformation of the shaft.

DE 1 181 007 describes a fixing element of this type designed as a screw and nut in which the nut shaft that can be inserted into the oblong hole has a width corresponding to the width of the oblong hole and has stop faces running parallel to the screw axis. These stop faces work together with corresponding faces in the oblong hole so that a rotation of the nut is

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prevented when the screw is tightened. This nut can be readily slackened back again after the screw has been loosened and then be withdrawn through the oblong hole.

Furthermore, there are fixing elements with a foot part of the above-cited type that is comparable to the nut and is provided with a similarly designed shaft. However, since this foot part is not screwed down, there is the danger that the fixing element can become loose again by an unintended rotary movement.

The invention therefore has the problem of designing the shaft of the fixing element in such a manner that that it remains, after having been inserted and after the quarter turn, in this position. This is achieved by the shaft design indicated in the main claim.

The dependent claims show two embodiments of the fixing element of the invention explained in detail in the following:

Figure 1 shows a fixing element with foot part for anchoring in an oblong hole in a side view.

Figure 2 shows a section through the shaft with a view onto the head inserted in the oblong hole.

Figure 3 shows the same section through the shaft during the rotation.

Figure 4 shows the same section through the shaft after a completed quarter turn.

Figure 5 shows another fixing element with another shaft design for connecting two plates in section*.

Figure 6 shows the same fixing element in a side view.

Figure 7 shows a section through the shaft with a view onto the head inserted in the oblong hole.

Figure 8 shows the same section through the shaft during the rotation.

Figure 9 shows the same section through the shaft after a completed quarter turn.

The fixing element shown in Figures 1 to 4 consists of upper part 1 for holding long structural components such as, e.g., cable bundles in a clamping manner and of foot part 3 formed on its bottom plate 2 in a one-piece manner that is designed to be inserted into oblong hole 4 of a carrier plate. Foot part 3 comprises head 5 adapted in its outer contour to edge 6 of the oblong hole and shaft 7 with the same width as the oblong hole. Head 5 can be locked after having been inserted into oblong hole 4 by a quarter turn under elastic deformation of shaft 7.

To this end head 5 comprises pressing ramps 8 on its two outer ends that slide during screwing in over edge 6 of the oblong hole onto the back side of the carrier plate. Bottom plate 2 is slightly curved for this purpose and flexes upward to such an extent during the pressing of the lowest support ribs 9 that pressing ramps 8 can slide under the carrier plate.

* [Editor's note: Figures 5 through 9 not provided in original document.]

Shaft 7 consists according to the invention of a middle strut 10 connecting head 5 to bottom plate 2. Shanks 12 are formed in a right angle and in opposing directions on the two edges 11 in such a manner that they are elastically bent toward middle strut 10 during the screwing in of shaft 7 through edge 6 of the oblong hole (see Figures 3 and 8) and after the quarter turn they rise up again into their original position as a consequence of the elastic return force of the plastic (see Figures 4 and 9). If shaft 7 is to be turned in the opposite direction, this is impossible without damaging shaft 7 since shanks 12 cannot be pressed together and also cannot otherwise yield.

In addition, in the exemplary embodiment according to Figures 1 to 4, two other shanks 13 of the length of middle strut 10 are formed on the free ends of elastically deformable shanks 12 parallel to middle strut 10. These shanks have shoulders 14 again running in opposite directions on their free ends, the length of which shoulders is equal to the interval between middle strut 10 and shanks 13 running parallel to it. This assures that shanks 12 are clamped in after quarter turn V between middle strut 10 and edge 6 of oblong hole 4 and that elastically deformable shank 12 cannot yield laterally.

In the exemplary embodiment according to Figures 5 and 6, a fixing element for connecting two plates is shown with rotary handle 15 and resiliently yielding support screen 16 on whose bottom plate 17 another shaft variant is formed.

In this shaft a countershank 18 is formed in opposite directions on free edges 11 of middle strut 10. Interval "A" of both shanks 12 and of countershanks 18 corresponds to width "B" of oblong hole 4, and countershank 18 is approximately twice as thick as elastically deformable shank 12. In order to reinforce the supporting contact of elastic shank 12, a shoulder 19 is also formed at a right angle on its free end, just as in the case of shanks 13 in Figure 2.

Claims

1. A fixing element consisting of plastic and with a foot part for insertion into an oblong hole of a carrier plate, which foot part consists of a head corresponding to the edge of the oblong hole and of a shaft adapted to the width of the oblong hole, and which fixing element can be locked in the oblong hole after the insertion of the head by a quarter turn under elastic deformation of the shaft, characterized in that the shaft (7) consists of a middle strut (10) connecting the head (5) to the fixing element, which strut has the width of the oblong hole (4) and on each of the two edges (11) of which a shank (12) is formed at a right angle and in opposite directions in such a manner that they are elastically bent towards the middle strut (10) during the screwing in of the shaft (7) through the edge (6) of the oblong hole (4) and after a quarter turn they rise back up again into their original position as a consequence of the elastic return force of the plastic and thus oppose a rotation in the opposite direction.

2. The fixing element according to Claim 1, characterized in that another countershank (18) is formed in opposite directions on the free edges (11) of the central strut (10) and that interval (A) of both shanks (12), that project at a right angle, and of countershanks (18) corresponds to the width (B) of the oblong hole (4), and the countershank (18) is approximately twice as thick as the elastically deformable shank (12).

3. The fixing element according to Claim 1, characterized in that two other shanks (13) with the length of the middle strut (10) are formed on the free ends of the elastically deformable shanks (12), again parallel to the middle strut, (10) which shanks have shoulders (14) again running away from one another in opposite directions on their free ends and whose projecting height (h) is equal to the interval (a) between the middle strut (10) and the shanks (13) running parallel to it.